

**OFFICE OF SOLID WASTE MANAGEMENT
AMENDED ANNUAL REPORT TO THE
THIRTIETH LEGISLATURE
STATE OF HAWAI'I
2020**

PURSUANT TO SECTION 342G-15, HAWAI'I REVISED STATUTES,
REQUIRING THE OFFICE OF SOLID WASTE MANAGEMENT TO GIVE AN
ANNUAL REPORT ON SOLID WASTE MANAGEMENT

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STATE OF HAWAI'I
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Revised March 2021

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I. INTRODUCTION

The Office of Solid Waste Management (OSWM) provides an annual report to the Hawai'i State Legislature to describe progress towards the State's waste reduction goal. The OSWM is part of the Department of Health's Solid and Hazardous Waste Branch (SHWB) and administers the Deposit Beverage Container (DBC) Program, the Electronic Waste and Television Recycling and Recovery Program, and the Glass Advance Disposal Fee (ADF) Program. These three programs play an instrumental role in achieving the State's waste reduction goal.

II. SOLID WASTE MANAGEMENT PRIORITIES AND PRACTICES

Section 342G-2, Hawai'i Revised Statutes, requires the Department of Health and the counties to consider solid waste management practices and methods in the following order of priority:

- 1) Source Reduction
- 2) Recycling (to include bioconversion)
- 3) Landfilling and/or incineration

Successfully implementing the first two practices reduces the amount of waste to be landfilled or incinerated.

Source Reduction

"Source reduction" is also called "waste prevention" or "waste reduction" and is defined as creating or importing less waste. By its nature, source reduction does not create waste and is inherently difficult to quantify. In some cases, comparisons may be made to specific waste levels before a source reduction practice is employed to waste levels after, but in most cases an estimate of the amount of waste reduced is all that is possible.

Recycling

"Recycling" is the process by which materials are collected and reprocessed as "raw" materials to create new products. Recycling is the most easily quantified waste diversion activity. Like reuse (see below), it involves an actual material amount that can be measured, but unlike reuse, data from recycling facilities are regularly collected by the State and counties.

In 1991 the State Legislature passed Act 324, codified as Chapter 342G, which included an ambitious waste diversion goal of 25% by 1995. This mirrored the United States Environmental Protection Agency's (EPA) national recycling goal of 25% at the time, although Chapter 342G also increased the State's waste diversion goal to 50% by 2000. In 1996, the EPA announced that the national recycling goal of 25% had been met and released a revised goal of 35% by 2000. The EPA has subsequently discontinued publishing a recycling goal but reported that the national recycling rate was 35.2% in 2017 (the most recent year for which data is available). The State has faced similar challenges with improving its waste diversion goals.

Hawai'i's commercial recyclers contend with significant issues. Because of the State's small population, and a corresponding small market, nearly all of the State's recyclable materials are shipped out of the State to recycling processors that can manage the materials economically. Currently, most recyclables are shipped to either the U.S. mainland or Asia. Other challenges include high land values (which translate to high lease costs), labor costs, and other overhead costs like utilities and specialized equipment. Volatility in the recycled materials markets (i.e., China's ban on recyclable plastics in 2018 and other plastic import bans in Southeast Asia shortly thereafter) is an issue that all recyclers deal with regardless of location. However, Hawai'i's

recyclers are disproportionately affected by any market fluctuations because of thinner profit margins as a result of higher overhead and transport costs.

Bioconversion

“Bioconversion” is the process by which organic waste is managed through biological or chemical means like biogasification, pyrolysis, and fermentation. In Hawai‘i, the most common bioconversion process is composting green waste (tree trimmings, grass clippings and similar material). Composting is considered a recycling activity and reported composting weights are included as part of the “Recycling” column in Table 1.

Reuse

Although not identified as a priority, “reuse” means using a product again without first having to reprocess it. The product may be used for its original or intended use or may be used in a different capacity. Reuse of products or materials is also difficult to quantify even though it involves an actual material. Reuse can be measured by counting the units of a product being reused or by quantifying tonnage, but effectively measuring reuse is impracticable because it takes place at so many levels and on an unregulated and widespread scale. Reusing a plastic kalua pig container to hold a dishwashing sponge or a glass kim chee jar to store pickled mango are examples that contribute to waste reduction but are impossible to accurately measure.

Waste Diversion

In 2020 the State Legislature proposed amending Chapter 342G-003 to raise the State’s waste diversion goal from 50% to 70% by 2030 to codify the Aloha+ Challenge. The Department of Health supports this proposed legislation.

The diversion rates presented below are based on data collected by the Department of Health from permitted solid waste management facilities.

Table 1: Waste Diversion for FY2019 (tons)

County	Generation	Recycling*	Disposal	Recycling Rate	Incineration
Hawai‘i	311,201	58,840	253,361	18.9%	
Maui	320,936	97,616	223,321	30.4%	
Honolulu	1,509,971	245,024	1,264,947	16.2%	753,176
Kaua‘i	132,290	40,208	92,082	30.4%	
State	2,275,398	441,688	1,833,711	19.4%	753,176

Notes:

Data are sourced primarily from permitted solid waste management facility reports and is incomplete where indicated (*). The Department of Health will continue to collect data and will provide updates in subsequent legislative reports, including tabulating diversion rates over the past five fiscal years as the respective legislative reports are published.

Differences in recycling rates from those published by the counties are attributed to different data collection processes and differences in the classification of recycling and landfill diversion activities.

Table 2: Solid Waste Diversion Rates for FY2015 through FY2019

County	FY2015	FY2016	FY2017	FY2018	FY2019
Hawai'i	26.7%	50.5%	22.9%	19.5%	18.9%
Maui	14.4%	30.8%	30.6%	18.4%	30.4%
Honolulu	48.4%	28.7%	28.1%	20.8%	16.2%
Kaua'i	44.9%	55.5%	54.2%	57.3%	30.4%
State	43.0%	32.8%	30.0%	23.7%	19.4%

III. OSWM ACTIVITIES

Deposit Beverage Container Program

The State of Hawai'i Deposit Beverage Container (DBC) Program achieved an annual redemption rate of 62.7% in FY 2019, accounting for over 600 million containers recycled.

The DBC Program's redemption rate is a measure of program's effectiveness to: (1) collect and redeem eligible deposit beverage containers; and (2) recycle DBC materials. It is calculated by dividing the number of DBC redeemed by the number of DBC sold.

$$\text{FY 2019 Redemption Rate: } \frac{607,214,820 \text{ (Redeemed)}}{967,770,526 \text{ (Sold)}} = 62.7\%$$

Table 3: DBC Program FY2019 Revenues & Expenditures

Revenue	
- Distributor Payments	\$57,209,382.00
- State Investment Pool Account	\$0.00
- Other Revenue	\$4,680.00
Total Revenue	\$57,214,062.00
Expenditures	
Contracts	
- Redemption Center	
- Reimbursements	\$48,607,422.00
- Encumbered Redemption Center	
- Reimbursements	\$13,235,788.00
- County Recycling Program	
- Support	\$440,496.00
- Encumbered County Recycling	
- Program Support	\$272,574.00
- Other Contracts	\$15,679.00
Contracts Subtotal	\$62,571,959.00
Program Administrative Costs	
- Payroll & Fringe	\$406,786.00
- Encumbered Payroll & Fringe	\$189.00
- Supplies & Operating Costs	\$94,272.00
- Encumbered Supplies &	
- Operating Costs	\$38,099.00
- Travel	\$5,801.00
Program Administrative Costs Subtotal	\$545,147.00
Other Miscellaneous Expenditures	\$745,337.00
Total Expenditures	\$63,862,443.00

Electronic Waste and Television Recycling and Recovery Program

The Electronic Waste Recycling Act was adopted in 2008 and created a recycling program for computers, portable computers, computer monitors and computer printers. Products covered by this statute are considered “Covered Electronic Devices” (CEDs). The Electronic Waste and Television Recycling and Recovery Act was adopted in 2009 and expanded the program to cover televisions. Products covered under this portion of the law are termed “Covered Televisions” (CTVs). The dual program is managed by OSWM.

The act requires manufacturers to register with OSWM and submit recycling plans to the department. The plans describe how each manufacturer intends to collect and recycle used CED and CTV products. Table 4 indicates the number of manufacturers registered with the department by year.

Table 4: Number of Registered Manufacturers

Calendar Year	2015	2016	2017	2018	2019
CED	62	64	63	63	59
CTV	27	24	19	21	21

Manufacturer Ranking by Pounds Recycled in 2018

By January 1, 2010, CED manufacturers were required to establish their electronic recycling programs and by January 1, 2011, CTV manufacturers were required to establish their recycling programs in the State.

By law, OSWM is required to rank CED manufacturers by the number of pounds they recycled. Table 5 displays the rankings for the manufacturers who reported recycling CEDs in Hawai'i. 30 CED manufacturers reported recycling zero (0) pounds of CEDs in Hawai'i and are listed alphabetically in Table 6. Because of the time needed to compile this data (due to CED and CTV reporting, and by OSWM for analysis) there is a one-year lag in the data presented.

Table 5: Manufacturer Ranking by CED Pounds Recycled in 2018

Rank	Manufacturer	CED Pounds Recycled
1	Apple, Inc.	320,000
2	HP, Inc.	289,952
3	Dell Marketing LP	164,856
4	Samsung Electronics America, Inc.	50,000
5	Acer American Corporation	27,406
6	LG Electronics USA, Inc.	26,205
7	Lenovo (United States), Inc.	19,803
8	Brother International Corporation	6,419
9	VIZIO, Inc.	5,000
10	Lexmark International, Inc.	4,230
11	Best Buy	3,998
12	VTech Electronics North America, LLC.	3,927
13	Elo Touch Solutions, Inc.	2,049

Table 5: Manufacturer Ranking by CED Pounds Recycled in 2018 (cont.)

Rank	Manufacturer	CED Pounds Recycled
14*	DPI, Inc.	2,000
14*	Funai Corporation, Inc.	2,000
14*	Planar Systems, Inc.	2,000
15	Panasonic Corporation of North America	1,600
16	Mattel, Inc.	1,417
17	PLR IP Holding, LLC.	1,099
18	Cellco Partnership	1,046
19	Canon U.S.A., Inc.	1,002
20*	Amazon.com Services, Inc.	1,000
20*	ASUS Computer International	1,000
20*	KYOCERA Document Solutions America, Inc.	1,000
20*	NOOK Digital LLC	1,000
20*	Oki Data Americas, Inc.	1,000
20*	Robert Bosch Tool Corporation	1,000
20*	Sharp Electronics	1,000
20*	TGCS	1,000
20*	Venturer Electronics, Inc.	1,000
21	Toshiba America Information Systems, Inc.	934
22	Huawei Device USA, Inc.	916
23	Envision Peripherals, Inc.	850
24	TCT Mobile, Inc.	816
25	Wacom Technology Corporation	600
26	Aleph Objects, Inc.	500
27	Microsoft Corporation	440
28	Trans Cosmos America, Inc.	400
29	SMART Technologies	300
30	HTC America, Inc.	200
31	Epson America, Inc.	194
32	Google LLC	5

*Indicates manufacturers with identical rankings

Table 6: CED Manufacturers Reporting Zero Pounds Recycled in 2018

American Future Technology Corporation, dba ibuypower
BenQ America Corp.
Cyberpower, Inc.
Fujitsu America, Inc.
IBM Corporation (International Business Machines Corporation)
Igaming Enterprises LLC
Intel Corporation
Konica Minolta Business Solutions USA, Inc. (KMBS)
Motorola Mobility LLC
Motorola Solutions
Nvidia Corporation
Oracle America, Inc. (Oracle)
Ricoh USA, Inc.
Sceptre, Inc.
Stratasys, Inc.
TCL
TCL MOKA INTERNATIONAL LIMITED
Tmax Digital, Inc.
TongGang Global
USA111 Inc.
ViewSonic Corporation
Xerox Corporation

In 2018, CED and CTV manufacturers reported recycling 951,164 pounds of CEDs and 2,337,605 pounds of CTVs (see Table 7).

Table 7: E-Waste Recycled (2014-2018)

Pounds Recycled					
Calendar Year	2014	2015	2016	2017	2018
CED Manufacturer	2,290,087	1,906,345	1,780,235	1,192,408	951,164
CTV Manufacturer	1,945,189	2,269,664	1,661,062	2,299,611	2,337,605
Total	4,235,276	4,176,009	3,441,297	3,492,019	3,288,769

Registered electronic device manufacturers are required to pay an annual registration fee of \$5,000 and registered television manufacturers are required to pay an annual registration fee of \$2,500. Any manufacturer that sells both CEDs and CTVs are required to pay a combined \$7,500 in annual registration fees. Table 8 indicates program revenue from manufacturer registration fees.

Table 8: Electronic Device Recycling Fund Revenue

Calendar Year	2015	2016	2017	2018	2019
	\$367,500	\$380,000	\$362,500	\$367,500	\$347,500

Funding of County Electronics Recycling Programs

Counties have made electronic waste diversion from landfilling (or incineration) a high priority and developed programs prior to enactment of the State law. However, most of the collection programs have been drastically scaled back (or completely eliminated) because of budget constraints.

New electronics recycling services for the general public have become available in response to the law. The most comprehensive programs have been centered on O'ahu with recyclers accepting all brands of electronics free of charge and even accepting items not covered by the law.

Comprehensive services are centered on O'ahu because of its population concentration. The OSWM provides funding to the counties of Hawai'i, Maui and Kaua'i to maintain county electronic waste collection programs. Various manufacturers also pay the shipping costs for electronics collected through these periodic waste collection efforts on the neighbor islands.

Glass Advance Disposal Fee (ADF) Program

OSWM continues to administer a statewide glass recovery program that is funded by an ADF. OSWM collects the fee from importers of glass container products that do not qualify as DBC (i.e., wine bottles). OSWM then contracts with each county to operate local glass recovery programs to divert glass from the waste stream for recycling. As directed by statute (HRS §342G-84) the funds are distributed to the counties based on population. Each county is allowed the flexibility to structure its glass-recycling program to maximize glass recycling. Program revenue and expenditures are indicated in Tables 9 and 10, respectively. Table 11 details the tonnage of glass recycled by the counties as part of the Glass ADF Program.

Table 9: Glass ADF Revenue

Calendar Year	2015	2016	2017	2018	2019
	\$851,937	\$795,188	\$772,991	\$748,684	\$726,678

Table 10: Expenditures for County Collection Programs

Fiscal Year	2015	2016	2017	2018	2019
Hawai'i	\$128,000	\$85,200	\$0	\$110,171	\$85,720
Maui	\$111,060	\$83,000	\$99,100	\$109,390	\$115,390
Honolulu	\$547,965	\$413,900	\$489,100	\$535,360	\$355,469
Kaua'i*	\$53,200	\$0	\$0	\$0	\$0
State	\$840,225	\$582,100	\$588,200	\$754,921	\$556,579

*The County of Kaua'i was ineligible to receive the allocated ADF funding since it does not have a glass "buy back" program.

Table 11: County Recycled Glass (Tons)

Fiscal Year	2015	2016	2017	2018	2019
Hawai'i	878	294	0	617	369
Maui	1,080	553	745	547	1,401
Honolulu	4,824	5,029	5,220	4,859	1,900
Kaua'i*	587	0	0	0	0
State	7,369	5,876	5,965	6,023	3,670

*The County of Kaua'i was ineligible to receive the allocated ADF funding since it does not have a glass "buy back" program.

IV. SOLID WASTE MANAGEMENT PROGRAM FUNDING

The Solid Waste Management Disposal Surcharge (Surcharge) is the primary funding source for OSWM's planning staff, Recycling Coordinator, and Solid Waste Coordinator, and two full time equivalent (FTE) positions in SHWB's Solid Waste Section.

OSWM collects the Surcharge from the owners/operators of disposal facilities within the State. This includes all municipal solid waste and construction and demolition landfills, as well as the H-POWER waste-to-energy incinerator on Oahu. Tables 12 and 13 detail the annual collections and expenditures of the Surcharge.

Table 12: Solid Waste Disposal Surcharge Collections

Fiscal Year	2015	2016	2017	2018	2019
Collections	\$465,865	\$430,884	\$664,391	\$413,102	\$621,912

Table 13: Solid Waste Disposal Surcharge Expenditures

Fiscal Year	2015	2016	2017	2018	2019
Expenditures	\$680,165	\$652,659	\$282,810	\$375,185	\$466,575